

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Claims 1-15 (Cancelled without prejudice or disclaimer).

16. (Original) In a reading apparatus for scanning and decoding image data that is encoded in one of a plurality of types of optically readable indicia, in combination:

scanning means for scanning said indicia and generating image data indicative of the data encoded therein;

a parameter memory space for storing a list of parameters including a plurality of parameters that define the operating modes of said apparatus, said list of parameters including a plurality of code options that identify the decoding programs that are and are not enabled for use during decoding;

a menuing memory space for storing a menuing program which enables a user at least to modify said list of parameters;

an I/O device through which a data source external to the reading apparatus may transmit reprogram requests and program data to said apparatus;

processing means for executing a plurality of decoding programs in an attempt to decode said image data, said processing means being programmed to respond to a reprogram request initiated by said external data source and to receive program data communicated by said external data source;

whereby said external data source may modify at least one of said list of parameters, said menuing program and said decoding programs.

17. (Original) The reading apparatus of claim 16, in which said decoding programs form parts of a 1D/2D autodiscrimination program, and in which said reading apparatus is adapted to receive from said external data source program data which modifies at least one of said decoding programs.

18. (Original) The reading apparatus of claim 17, in which said list of parameters includes parameters specifying which of a plurality of scanning-decoding relationships are to exist between the scanning and decoding activities of said reading apparatus during the execution of said 1D/2D autodiscrimination program.

19. (Original) In a reading apparatus for scanning and decoding image data that is encoded in one of a plurality of types of optically readable indicia, in combination:

an imaging assembly including a solid state image sensor reading said indicia and generating image data indicative of the data encoded therein;

a parameter memory space storing a list of parameters including a plurality of parameters that define the operating modes of said apparatus, said list of parameters including a plurality of code options that identify the decoding programs that are and are not enabled for use during decoding;

a menuing memory space storing a menuing program which enables a user at least to modify said list of parameters;

an I/O device through which a data source external to the reading apparatus may transmit reprogram requests and program data to said apparatus;

processing means for executing a plurality of decoding programs in an attempt to decode said image data, said processing means being programmed to respond to a reprogram request initiated by said external data source and to receive program data communicated by said external data source;

whereby said external data source may modify at least one of said list of parameters, said menuing program and said decoding programs.

20. (Original) The reading apparatus of claim 19 in which said decoding programs form parts of a 1D/2D autodiscrimination program, and in which said reading apparatus is adapted to receive from said external data source program data which modifies at least one of said decoding programs.

21. (Original) The reading apparatus of claim 20 in which said list of parameters includes parameters specifying which of a plurality of scanning-decoding relationships are to exist between the scanning and decoding activities of said reading apparatus during the execution of said 1D/2D autodiscrimination program.

22. (New) In a reading apparatus for scanning and decoding image data that is encoded in one of a plurality of types of optically readable indicia, in combination:

scanning circuit scanning said indicia and generating image data indicative of the data encoded therein;

a parameter memory space for storing a list of parameters including a plurality of parameters that define the operating modes of said apparatus, said list of parameters including a plurality of code options that identify the decoding programs that are and are not enabled for use during decoding;

a menuing memory space for storing a menuing program which enables a user at least to modify said list of parameters;

an I/O device through which a data source external to the reading apparatus may transmit reprogram requests and program data to said apparatus;

processing circuit for executing a plurality of decoding programs in an attempt to decode said image data, said processing circuit being programmed to respond to a reprogram request initiated by said external data source and to receive program data communicated by said external data source;

whereby said external data source may modify at least one of said list of parameters, said menuing program and said decoding programs.

23. (New) The reading apparatus of claim 22, in which said decoding programs form parts of a 1D/2D autodiscrimination program, and in which said reading apparatus is adapted to receive from said external data source program data which modifies at least one of said decoding programs.

24. (New) The reading apparatus of claim 22, in which said list of parameters includes parameters specifying which of a plurality of scanning-decoding relationships are to exist between the scanning and decoding activities of said reading apparatus during the execution of said 1D/2D autodiscrimination program.

25. (New) In a reading apparatus for scanning and decoding image data that is encoded in one of a plurality of types of optically readable indicia, in combination:

an imaging assembly including a two-dimensional solid state image sensor reading said indicia and generating image data indicative of the data encoded therein;

a parameter memory storing a list of parameters including a plurality of parameters that define the operating modes of said apparatus, said list of parameters including a plurality of code options that identify the decoding programs that are and are not enabled for use during decoding;

a menuing memory space storing a menuing program which enables a user at least to modify said list of parameters;

an I/O device through which a data source external to the reading apparatus may transmit reprogram requests and program data to said apparatus;

processing circuit for executing a plurality of decoding programs in an attempt to decode said image data, said processing circuit being programmed to respond to a reprogram request initiated by said external data source and to receive program data communicated by said external data source;

whereby said external data source may modify at least one of said list of parameters, said menuing program and said decoding programs.

26. (New) The reading apparatus of claim 25 in which said decoding programs form parts of a 1D/2D autodiscrimination program, and in which said reading apparatus is adapted to receive from said external data source program data which modifies at least one of said decoding programs.

27. (New) The reading apparatus of claim 26 in which said list of parameters includes parameters specifying which of a plurality of scanning-decoding relationships are to exist between the scanning and decoding activities of said reading apparatus during the execution of said 1D/2D autodiscrimination program.

28. (New) In a reading apparatus for scanning and decoding image data that is encoded in one of a plurality of types of optically readable indicia, in combination:

scanning circuit for scanning said indicia and generating image data indicative of the data encoded therein;

a parameter memory space for storing a parameter table including a plurality of parameters that define the operating modes of said apparatus;

a menuing memory space for storing a menuing program which enables a user at least to modify said parameter table;

an I/O device through which a data source external to the reading apparatus may transmit reprogram requests and program data to said apparatus;

processing circuit for executing a plurality of decoding programs in an attempt to decode said image data, said processing circuit being programmed to respond to a reprogram request initiated by said external data source and to receive program data communicated by said external data source;

whereby said external data source may modify at least one of said parameter table, said menuing program and said decoding programs.

29. (New) The reading apparatus of claim 28 in which said menuing program allows a user to modify said parameter table by presenting to the reading apparatus optically readable menu symbols selected by the user.

30. (New) The reading apparatus of claim 29 further including a random access memory (RAM) and an erasable read only memory (EROM), in which the parameter table and the menuing program are stored in said (EROM) when the reading apparatus is scanning and decoding data, and in which user selected modification to said parameter table are made

by transferring the parameter table to said RAM, modifying the parameter table in RAM, and then transferring the modified parameter table back to said EROM.

31. (New) The reading apparatus of claim 28, further including a random access memory (RAM) and an erasable read only memory space (EROM), in which the parameter table and the menuing program are stored in said EROM when the reading apparatus is scanning and decoding data, and in which parameter and menuing program data transmitted by said external data source are stored in said RAM before being transferred to said EROM.

32. (New) The reading apparatus of claim 31 in which program data received from said external data source is organized into program data blocks, and in which said data blocks are transferred to said EROM on a block by block basis, whereby part of said EROM may be reprogrammed without reprogramming the whole of said EROM.

33. (New) The reading apparatus of claim 32 in which the parts of said EROM that store said program data blocks are erased immediately prior to the time that program data blocks are stored therein.

34. (New) The reading apparatus of claim 28 in which said parameter table includes a plurality of code options that identify the decoding programs that are and are not enabled for use during decoding.

35. (New) The reading apparatus of claim 34 in which said decoding programs form parts of a 1D/2D autodiscrimination program, and in which said reading apparatus is adapted to receive from said external data source program data which modifies at least one of said decoding programs.

36. (New) The reading apparatus of claim 35 in which said parameter table includes parameters specifying which of a plurality of scanning-decoding relationships are to exist

between the scanning and decoding activities of said reading apparatus during the execution of said 1D/2D autodiscrimination program.

37. (New) The reading apparatus of claim 28 in which said parameter table includes a plurality of scanning-decoding options that specify the relationships that may exist between the scanning and decoding activities of said apparatus.

38. (New) The reading apparatus of claim 37 in which said scanning-decoding options include at least one tracking option.

39. (New) The reading apparatus of claim 37 in which said scanning decoding options include at least one non-tracking option.

40. (New) The apparatus of claim 28, wherein said external data source comprises a remote host processor that is coupled to said I/O device through a data transmission link.

41. (New) The reading apparatus of claim 37 in which said scanning-decoding options include at least one of a One Shot option and a Repeat Until Done option.

42. (New) The reading apparatus of claim 41 in which said scanning-decoding options include at least one of a Scan On Demand Option and a Skip Scan option.

43. (New) In a hand held reading apparatus for scanning and decoding image data that is encoded in one of a plurality of types of optically readable indicia, in combination:

scanning means including a solid state image sensor for scanning said indicia and generating image data indicative of the data encoded therein;

a parameter memory space for storing a parameter table including a plurality of parameters that define the operating modes of said apparatus, said parameter table including a plurality of code options that identify the decoding programs that are and are not enabled for use during decoding;

a menuing memory space for storing a menuing program which enables a user at least to modify said parameter table;

an I/O device through which a data source external to the reading apparatus may transmit reprogram requests and program data to said apparatus;

processing means for executing a plurality of decoding programs in an attempt to decode said image data, said processing means being programmed to respond to a reprogram request initiated by said external data source and to receive program data communicated by said external data source;

whereby said external data source may modify at least one of said parameter table, said menuing program and said decoding programs.

44. (New) The reading apparatus of claim 43, in which said decoding programs form parts of a 1D/2D autodiscrimination program, and in which said reading apparatus is adapted to receive from said external data source program data which modifies at least one of said decoding programs.

45. (New) The reading apparatus of claim 43, in which said parameter table includes parameters specifying which of a plurality of scanning-decoding relationships are to exist between the scanning and decoding activities of said reading apparatus during the execution of said 1D/2D autodiscrimination program.

46. (New) In a reading apparatus for scanning and decoding image data that is encoded in one of a plurality of types of optically readable indicia, in combination:

scanning means for scanning said indicia and generating image data indicative of the data encoded therein;

a parameter memory space for storing a list of parameters including a plurality of parameters that define the operating modes of said apparatus, said list of parameters including a plurality of code options that identify the decoding programs that are and are not enabled for use during decoding;

a menuing memory space for storing a menuing program which enables a user at least to modify said list of parameters;

an I/O device through which a data source external to the reading apparatus may transmit reprogram requests and program data to said apparatus;

processing means for executing a plurality of decoding programs in an attempt to decode said image data, said processing means being programmed to respond to a reprogram request initiated by said external data source and to receive program data communicated by said external data source;

whereby said external data source may modify at least one of said list of parameters, said menuing program and said decoding programs.

47. (New) The reading apparatus of claim 46, in which said decoding programs form parts of a 1D/2D autodiscrimination program, and in which said reading apparatus is adapted to receive from said external data source program data which modifies at least one of said decoding programs.

48. (New) The reading apparatus of claim 47, in which said list of parameters includes parameters specifying which of a plurality of scanning-decoding relationships are to exist between the scanning and decoding activities of said reading apparatus during the execution of said 1D/2D autodiscrimination program.

49. (New) In a reading apparatus for scanning and decoding image data that is encoded in one of a plurality of types of optically readable indicia, in combination:

an imaging assembly including a solid state image sensor reading said indicia and generating image data indicative of the data encoded therein;

a parameter memory space storing a list of parameters including a plurality of parameters that define the operating modes of said apparatus, said list of parameters including a plurality of code options that identify the decoding programs that are and are not enabled for use during decoding;

a menuing memory space storing a menuing program which enables a user at least to modify said list of parameters;

an I/O device through which a data source external to the reading apparatus may transmit reprogram requests and program data to said apparatus;

processing means for executing a plurality of decoding programs in an attempt to decode said image data, said processing means being programmed to respond to a reprogram request initiated by said external data source and to receive program data communicated by said external data source;

whereby said external data source may modify at least one of said list of parameters, said menuing program and said decoding programs.

50. (New) The reading apparatus of claim 49 in which said decoding programs form parts of a 1D/2D autodiscrimination program, and in which said reading apparatus is adapted to receive from said external data source program data which modifies at least one of said decoding programs.

51. (New) The reading apparatus of claim 50 in which said list of parameters includes parameters specifying which of a plurality of scanning-decoding relationships are to exist between the scanning and decoding activities of said reading apparatus during the execution of said 1D/2D autodiscrimination program.